1848MNRAS...8..211.

"The spot was distinctly visible to the naked eye before sunset."

By comparisons with δ *Ophiuchi*, *Spica*, and *Antares*, Mr. Weld found the declination of Mr. Hind's changing star to be $-12° 37' 15''$.

NOTICE OF THE PRINCIPAL ENGLISH OBSERVATORIES.

EXTRACTED FROM OFFICIAL OR DIRECT SOURCES.

It has been thought advisable to insert a brief account of our principal Observatories in the *Monthly Notices*, as, notwithstanding the great liberality with which their publications are distributed, and their observations communicated, many members may not be sufficiently acquainted with their condition. Two British Observatories only, are, properly speaking, public — those of Greenwich and Edinburgh. The Observatory of Oxford was built and is supported by a bequest under Dr. Radcliffe's will: it is under the control of private trustees. The Cambridge Observatory was erected principally by private subscription, and is supported in part by the funds of a professorship founded by Dr. Plume, but mainly out of the University chest. The Radcliffe observer makes an annual report to his trustees; and Visitors appointed by the Cambridge Senate draw up yearly a statement to be laid before that body. Since the appointment of Mr. Airy to the Royal Observatory, a minute Report of all proceedings and changes in that establishment is read to the Board of Visitors at the Annual Visitation in June.

Greenwich.

It has been mentioned in former numbers that the Meridional Instruments at Greenwich are deficient in optical power, and that the Astronomer Royal proposed to replace the Mural Circle and Transit by a single instrument, viz. a Transit Circle, which is to be erected on the site of the present circle-room. In his Report to the Visitors, Mr. Airy says:—

"An object-glass of 8 inches clear aperture and 11 feet 6 inches focal length having been placed in my hands by Mr. Simms, I carefully examined it. I found that it shewed some objects not of the closest class (as ε *Boötis* and ζ *Cancri*) better, I think, than I had seen them before: that it separated η *Coronæ*; that it did not separate γ *Coronæ* (which, having witnessed the difficulty of that star in the great Pulkowa refractor, I was prepared to expect); and that it dispersed light no more than the best object-glasses usually do. At my recommendation, therefore, this object-glass was purchased by the Lords Commissioners of the Admiralty, at the price of 275*l*. I have now to explain the form in which I propose to mount it. No verbal description, probably, can dis-

B

1848MNRAS...8..211.

pense with reference to the model,* and I will therefore confine myself to the leading points. I propose to mount it as a Transit Circle, its Ys bearing solidly on the piers far from their edges, and having no adjustments; the axis carrying two nearly similar circles on the East and West arms, one for clamping, the other for the divisions. I propose that the clamps have no tangent-screw, the bisection being in all cases effected by the micrometer in the field of view of the telescope. I propose that the divisions be illuminated by a single lamp in the prolongation of the axis, without reflectors; and that the microscopes be in a conical surface, passing through one pier, the eye-ends being in a circle of two feet diameter; and that the divisions be cut upon a limb of metal which is so bevelled on the circle that the light of the lamp will be reflected up the microscopes. Several microscopes to be permanently mounted, in positions proper for ascertaining with the utmost exactness the errors of division. Microscopes to be mounted for ascertaining the laws of movement of points on the ends of the pivots. The instrument never to be reversed; but an apparatus to be provided for raising it so far that a collimating telescope firmly fixed on a solid pier on the north side, and one on the south side, can be adjusted on each other; then when the instrument is dropped into its usual place, the error of collimation and the flexure will be determined without reversion, by observation of the two collimators. No spirit-level or equivalent instrument to be used, but the error of level to be determined by observation of the image of the wires by reflexion in a trough of mercury. A parallel-motion apparatus to be used for carrying the trough, and a peculiar arrangement for facilitating the process of cleaning the mercury. In regard to the material, I propose that the whole be made of cast-iron, the axis being in two parts (which enables the founder to make the pivots of hard chilled iron, while the rest is of soft iron), each end of the telescope being in one part, and each of the two circles being cast in one piece. An instrument thus constructed would, probably, be more accurate for right ascensions than the present transit, in so far as the frequent observation of the well-mounted collimators would add to the knowledge of its azimuthal error; and perhaps more accurate for zenith distances than Troughton's Circle, in so far as the circle is in a state of less strain, while its construction possesses greater firmness. But the reasons for recommending it, as is known to the Visitors, are, the power of carrying a larger object-glass, and the enabling one observer to complete the observation of the two elements."

The observations in Polar Distance were made with Jones's Cape Circle, until Troughton's Circle was erected in another apartment, where it is and will be used until the circle-room is rebuilt and

---

* A small model of the proposed transit circle was exhibited at the Visitation in June; and the Astronomer Royal, having obtained the consent of the Government, is proceeding with the construction of the instrument. A full-sized model has been made and approved. The circle room is rebuilding.

1848MNRAS...8..211.

furnished. The Transit will not be disturbed till the new instrument is at work.

The Zenith Tube has been taken down. It was proposed by some of the Visitors that it should be erected in another and less objectionable position than that which it formerly occupied, and a new site was pointed out by the Astronomer Royal. Mr. Airy, however, greatly prefers a different construction, if a continuous series of observations of γ *Draconis* be required. The principle of this construction, which is singularly simple, is thus described by Mr. Airy:—

"Let the micrometer be placed close to the object-glass, the frame of the micrometer being firmly connected with the object-glass cell, and a reflecting eye-piece being used with no material tube passing over the object-glass; and let a basin of quicksilver be placed below the object-glass, but in no mechanical connexion with it, at a distance rather greater than half the focal length of the object-glass, so that an image of the star is formed on the wires after the rays are reflected from the mercury. Such an instrument would at least be free from all uncertainties of twist of plumb-line, viscosity of water, attachment of upper plumb-line microscope, attachment of lower plumb-line microscope, and the observations connected with them; and might be expected, as a result of this extreme simplicity, to give accurate results."

The Astronomer Royal was recommended by the Board of Visitors to take the necessary steps for procuring a Zenith instrument on the principle described, and he has already printed and distributed an account of the construction which he proposes to adopt, with explanatory drawings. There seems scarcely any limit to the power and probable accuracy of such a Zenith tube, and as the mounting is exceedingly cheap and simple, it will most likely come into general use, especially for nice determinations of latitude.

It will be remembered that an Altitude and Azimuth Instrument, made after Mr. Airy's designs by Messrs. Ransome and May, and Messrs. Troughton and Simms, has recently been added to the Royal Observatory, for the express purpose of observing the moon. Mr. Airy says:—

"The Altitude and Azimuth Instrument having now been in use for an entire year, I am able to give some account of its success or failure as a mechanical arrangement. The first subject for remark is the steadiness of support of the upper pivot, which is held in its place, as the Visitors will remember, by a frame of bars whose arrangement in every part is triangular. The steadiness is perfect. In the first observations, the levels were read before and after the telescopic observation, but it was very soon found that this caution was entirely unnecessary. The next point is the steadiness in the position of the horizontal axis of the vertical circle relatively to the vertical revolving-frame, and generally the steadiness of the constants of instrumental errors. For some time the constants were so unsteady as to give me great trouble. Several observations of stars were absolutely rejected. In the month of

1848MNRAS...8..211.

July, after careful consideration of the discordances, I came to the conclusion that there was a wandering of the horizontal pivots in their Ys, caused probably by the counterpoises: the counterpoises were therefore diminished by one-third part, and since that time the constants of instrumental error have been steady, and not a single observation has been rejected. The next circumstance which gave me trouble was the uncertainty in the scale-values of some of the long levels. The singular good fortune of having four parallel levels upon the instrument, which are always read, enabled me to compare the proportion of the scale-values in actual use to the scale-values determined before mounting. These were very discordant. I became at length persuaded that this was caused by the very defective construction usually adopted in the mounting of English levels; and in the autumn I applied to the two longest levels the construction with which I had become familiar in Germany and Russia, in which the glass tube of the level is supported in Ys: since that time the levels have been fairly accordant. Another contrivance extensively applied to German levels, namely, the covering by glass shades, has also been applied here. A difficulty which can be surmounted only by constant care has sometimes presented itself, namely, that when the dome is opened very shortly before observation, the changes of readings of the upper and lower levels do not exactly correspond. Lastly, when the best values of instrumental errors of every kind are applied, the accuracy of every part of observation, of calculation and application of instrumental errors, and of tabular calculation, is checked by the determinations of the zero of azimuth. These determinations are sufficiently steady in any one evening, or, perhaps, in groups of several evenings; but they are not steady from time to time, the variation amounting to three or four seconds of arc. Whether this arises from a twist of the brick pier, or from a twist of the piers of the Transit Instrument (the times being obtained from the transit-clock), or from a change in the observer's personal equation, I cannot tell. The substitution of improved meridional instruments for those now in use will enable me to remove one of these conjectural causes.

"I have spoken hitherto solely with respect to the azimuthal observations, in which alone, from the first, I anticipated any difficulty. The zenith distance observations have never given the smallest trouble.

"The accuracy of the results, as estimated by the observation of stars, is somewhat less than that of the Mural Circle, perhaps nearly in the degree which might be expected in circles whose diameter is half that of the Mural Circle.

"For observations with the Altitude and Azimuth Instrument, the following rule is laid down. The moon is to be observed if visible, and the observer is bound to watch if necessary while the moon is above the horizon, and the sun is not more than an hour above the horizon. One azimuth and one altitude are to be observed, and if possible, two azimuths and two altitudes in re-

1848MNRAS...8..215.

versed positions of the instrument: and if the night is fine, a low star and a high star are to be observed in azimuth, both in reversed positions of the instrument, and one star in altitude, in reversed positions. Thus a complete set includes ten observations. These rules have been followed carefully during the thirteen lunations intervening between 1847, May 15, and 1848, May 30; and I am now able to give a comparison of the number of days of observation of the moon with the Altitude and Azimuth Instrument and with the Meridional Instruments. With the Altitude and Azimuth Instrument no days are included except both altitudes and azimuths are observed; and with the Meridional Instruments, no days except both right ascensions and polar distances are observed."

"The number of days during the last year in which the moon has been observed at Greenwich are :—

With the Altitude and Azimuth Circle = 203
,, Meridional Instruments = 111

This statement gives only an imperfect idea of the value of the instrument. When the moon passes from 1 to 4 hours before or after the sun, there are 34 observations with the Altitude and Azimuth, and not one with the Transit and Circle.* It is not necessary to point out the immense utility of these results in the lunar theory, or to geography and navigation, which depend on lunar observations for their fundamental determinations.† The results of the observations, as reduced to the state of Apparent Errors of Tables in R.A. and N.P.D., appear very good; perhaps a little, and but a little, inferior to those of the Meridional Instruments.

Throughout the year 1847 the new form of star-reduction proposed by Mr. Airy as a substitute for Bessel's, (see *M. Notices*, vol. vii. p. 189,) has been used, and it has been found convenient. At present the assistants are employed in collecting all the star observations in 1842–1847, for the purpose of forming another grand catalogue reduced to the epoch 1845. The Astronomer Royal proposes to give in this catalogue the star-constants $e, f, g, h, l; e', f', g', h', l'$, and also, for a few years, the day-constants E, F, G, H, L, which are required by his method.

The reduction of Fallow's Cape Observations was commenced some time ago under the direction of the Astronomer Royal. This was interrupted by the work incident to the completion of the lunar reductions, but it will be resumed in a short time.

The ledgers of star-observations and occasional star-catalogues found in Maskelyne's Observations have been fairly written out. Mr. Airy submitted to the Visitors the propriety of printing these reductions, and also suggested whether it might not be advisable to take some steps of calculation with respect to Bradley's Observations anterior to 1750.

---

* The working of this instrument is considered to absorb one assistant and one additional computer.

† When the Lunar Tables are made to satisfy the places of the moon given in the "Reduction of the Greenwich Lunar Observations," and are further corrected by observations made with the Azimuth and Altitude Instrument; well-observed Moon-culminations will not require *corresponding observations*, and occultations will yield trustworthy results *wherever* they may be observed.

In June last, the printing of the volume for 1846 was nearly finished, and the volume for 1847 was commenced.

Edinburgh.

Professor C. P. Smyth has been hitherto engaged in reducing and editing the observations of his lamented predecessor, and in examining and repairing the defects of his instruments and observatory. The meridian buildings are reported to be now in perfect order, and the instruments in a satisfactory state. It will be remembered that Professor Smyth has undertaken to determine the places of stars compared with the small planets and comets in extra-meridian observations, and when he is fully prepared (of which due notice will be given) it will be desirable that he should have early information of the approximate places of those stars, on which accurate and important comparisons depend.

The Astronomer Royal has communicated, and doubtless will continue to communicate, the mean right ascensions of the stars employed at Greenwich, so that the Edinburgh places will harmonise with those of Greenwich; or, as Professor Smyth remarks, "it will not work against but co-operate with Greenwich."

There seems reason to complain of the smoke of the city, but probably this will not very materially injure the great mass of observations. The transit has a noble object-glass 6½ inches aperture, and the Professor proposes to use the circle with illuminated wires on a dark field.

The instability of the Edinburgh transit was suspected by Professor Henderson to arise from the effect of temperature on the foundation. Professor Smyth has traced it to a much simpler cause, a defective original construction of the Ys. He thus describes the construction of the new Ys:—

"They are large slabs of cast-iron, covering the whole area of the top of the pier, and weighing several hundredweight; there are no adjusting-screws, but the sides of the angles in which the pivots rest have been filed away, until the instrument is made to move as nearly in the plane of the meridian as could, perhaps, have been managed with screws. One good result has been certainly proved to have followed, viz. that the reversing of the instrument to obtain the error of collimation does *not* now sensibly throw it out in azimuth, which Professor Henderson used to complain of with the old Ys. Touching the fears that the new Ys might split the stone piers, and the hopes that they might correct the temperature fluctuations, there has not been sufficient time yet to settle that question through the medium of the large transit; it may, however, be considered to be pretty well set at rest by the experiments on the 30-inch transit. This was mounted on a similar huge block of cast iron screwed and cemented down to its pier,

1848MNRAS...8..216.

on this it has now been sticking for a year, as firmly but as innocently as could be desired.

"The following is a list of azimuth errors of the 30-inch transit in its cast-iron block, as determined by *all* the transits of *α Ursæ Minoris*, observed on all five wires, during the period which elapsed from the final filing of the Ys to a snapping of two of the wires, which took place, it was supposed, from moisture: the clock star used on each occasion was *θ' Ceti*:—

			s
1847.	Nov.	1	− 0·091
		2	− 0·003
		15	− 0·058
		16	− 0·040
		30	+ 0·043
	Dec.	14	+ 0·006
1848.	Jan.	7	+ 0·020
		13	− 0·024

"Now these apparent fluctuations of the Ys in azimuth, which are very small, include the probable error with which each observation may be affected, by reason of the small optical power of the telescope and other matters inseparable from an inferior instrument. Hence they may be considered to be quite insignificant: taking them, however, as they are, and comparing them with the azimuth errors of the large transit in the corresponding period of the years 1841–2, the fluctuations of the large instrument turn out to be *five* times as great as those of the small one; a convincing proof that the cause of the changes hitherto remarked is not in the 'hill on which the observatory is built.' The above list of errors in azimuth may also convince observers that they may themselves rub down unadjustable Ys to limits which will be abundantly within easy calculation (and with transits, too, without micrometer wires).

"The Ys of the large transit having been erected, every screw about the instrument was tried to make sure that it was doing its duty: a number of the smaller ones (which seemed to be made of brass *wire*—drawn brass, not cast brass) were found quite rotten; these were replaced, and a good many new ones introduced about the sliding tubes at the eye end; handles for moving the instrument, and acting *only in the plane of the meridian*, were added; and then, as the line of soldering of the telescope was beginning to shew symptoms of oxidation, the instrument was painted. A nadir pier and mercury trough have been established, and a collimating eye-piece of peculiar construction, which, for perfect vision, seems to leave little to be desired, and reveals almost every affection of the instrument. On account of some of its revelations, the fixed wires have been removed, and five in their place mounted on the micrometer-frame. I propose to examine the errors of collimation and level every night, before and after the observations, as shall be found

1848MNRAS...8..216.

necessary, and am now engaged in trying to cure the reversing-carriage of a trick it has got of throwing the instrument to the west during reversal. Collimating lenses, of the full aperture of the object-glass, for marks on the boundary wall, are also being put up, as the old semi-collimating semi-meridian marks are now seldom seen, on account of the increased smoke of the city; and when they are, the 6·5-inch aperture of the transit must be reduced to 2 inches, and the eye-piece pulled out so far as to make the wires very indistinct and unsteady."

Oxford.

The Radcliffe Observer has lately published his seventh annual volume. This consists, like the preceding volumes, chiefly of observations of circumpolar stars contained in Groombridge's Catalogue.

It is not necessary to dwell upon the merits of Groombridge's Catalogue, one of the most laborious tasks ever undertaken by an amateur, as well as one of the most useful. His Transit Circle, though perhaps rather weak as a right ascension instrument, was at the time of its construction, and for many years after, the most perfect instrument in existence for determinations in north polar distance. On this account, and considering that the time elapsed since Groombridge made his observations is sufficient to detect and exhibit proper motions, Mr. Johnson undertook to reobserve the Catalogue with great care, and has now nearly completed the task.

The north polar distances have almost all been re-determined, and a large portion of the right ascensions; there are, however, several gaps, occasioned by the necessity of observing certain circumpolar stars for meridian error, and fundamental stars for clock error. The increased number of well-determined stars will now allow the observer more liberty in this respect, and the blanks are rapidly filling up.

Besides the general advantage of a full standard catalogue of stars within 50° of the north pole, (which by the aid of Groombridge's determinations may be carried forwards for some years,) and the materials thus afforded for investigating precession, proper motion, &c. a special advantage will be found in geodesical operations from this large supply of accurate places for the zenith sector.*

Mr. Johnson expects very soon to receive the Heliometer by Repsold, when his attention will be directed to another department of practical astronomy. Thus limited in time, and having the aid of only one assistant, he has been induced to confine himself in most cases to *two* observations of a star in the same year, and occasionally to *one*. The star has, however, been observed in *different* years, so that there is a considerable check on errors of computation and on casual fluctuations in the instruments.

---

* It is proper to remind observers who possess instruments not of the highest class, or who cannot afford the time for deducing fundamental places, that the partial catalogues in the Radcliffe Observations, will supply them abundantly with zone stars, from the pole to 50° of north polar distance, and that the volumes of the Edinburgh Observations will afford a sufficient number of similar stars, for a complete zodiacal catalogue. With these and the Greenwich catalogues there can be no want of a sound base of operations. Professor Argelander has made excellent use of the Radcliffe Observations in his admirable Zone Observations.

Care has generally been taken to note circumstances of interest connected with stars, which have come under observation. Among others, their magnitudes have been watched with much attention. The method adopted has been simply to estimate the apparent magnitudes in reference to *ideal* standards; and pending the discovery of some more accurate photometric measure, Mr. Johnson has instituted an inquiry as to the degree of reliance which may be placed on the method he has pursued. This inquiry has not yet been fully followed out, but the results, as far as they go, are given in the preface to the present volume. From what is there said, it may be inferred that Mr. Johnson would recommend that at every observation of a star, not distinctly visible to the naked eye, an estimate of its magnitude should be noted, unless there is some obvious impediment to a correct determination; and that a mean of such estimates should be taken as the magnitude of any given star, just as the mean of a number of observations in right ascension or north polar distance is considered as the correct right ascension or north polar distance.

Mr. Johnson acknowledges the great services which he has hitherto received in the voluntary revision of his work, first from Mr. Harris, our late assistant-secretary, and latterly from Mr. William Luff, of Oxford. Mr. Luff has most kindly undertaken to read the proof sheets and to revise the additions,* and, from the great care employed, it is hoped few typographical errors escape. When any errors are detected, Mr. Johnson hopes that they will be communicated to him.

The entire expense of printing these Observations is borne by the Radcliffe Trustees. The beautiful typography, and the convenient size of the volumes, enhance their value, and it is gratefully acknowledged that the Trustees distribute them liberally and judiciously.

Cambridge.

The Syndicate appointed to visit the Cambridge Observatory made a Report to the Senate, of which the following is the substance:—

The total number of observations in 1847 were,—

With the Transit, ...	2540
,, Circle, ...	2285
,, Northumberland Equatoreal	1400

---

* "The process of revision is as follows:—Mr. Luff receives the proof sheet as soon as it comes from the printer. He goes over all the additions, without having the copy by him; he notes all the mistakes he finds; then the proof is collated with the copy and it is seen which are the mistakes of the printer and which of the copy. All being corrected, the proof is returned to the printer. The *revise* is carefully read over again, and no sheet is marked for *press* till it is clear of mistakes."

1848MNRAS...8..220.

The observations with the Meridional Instruments are chiefly of the *Sun* (of which there is a very extensive series), *Moon*, *Jupiter*, *Saturn*, *Uranus*, and *Neptune*, with a good series of *Astræa*, *Flora*, and *Iris*. About 300 stars have been also observed.

The Equatoreal observations are for the most part of the minor planets and comets, which could not be seen on the meridian. These are, *Neptune*, *Astræa*, *Hebe*, *Iris*, *Flora*, and the following comets:—*Hind's*, Feb. 6; *Mauvais'* 3d; *Miss Mitchell's; Colla's.*

Professor Challis finds himself so much oppressed with unreduced and unpublished observations, that he has discontinued observations of the sun, moon, and the older planets, since the beginning of this year.* The recently-discovered planets are observed on the meridian and with the Northumberland Equatoreal, and the results communicated to the Royal Astronomical Society and to foreign Astronomers.

The Meridional Observations of 1847 are completely reduced. The Equatoreal Observations are less forward.

The volume for 1843 is nearly ready for publication. It does not contain the Equatoreal Observations, which are reserved for separate publication. Two Appendices are added; one containing so many of the observations made in search of the planet *Neptune* as are required to substantiate the statements given in the Special Report of Dec. 12, 1846; and the other a description of the Northumberland Telescope and Dome, drawn up by the Astronomer Royal.

Liverpool.

A very fine Equatoreal has recently been erected at the Liverpool Observatory. The general form of the instrument has been mentioned in former *Notices*, and it promises, so far as we have heard, to be the most accurate and most convenient instrument of its size now existing. The object-glass is by Merz of Munich, of eight inches aperture; and as it has been approved of by Messrs. Dawes and Lassell, most capable and somewhat fastidious judges, there can be no doubt of its superior excellence. In firmness and steadiness the equatoreal is reported to resemble a meridian instrument. The Hour-Circle is carried, as in the Northumberland telescope, by clock-work, and the right ascension is read off at once by the verniers. The Astronomer Royal, under whose direction the instrument was constructed, has given a perpetual motion to this hour-circle by clock-work moved by a water-wheel, to which a regulator is applied. The variation of the

---

* It is perhaps proper to inform those who are not acquainted with the University of Cambridge, that Professor Challis gives lectures during one term on Physics, and that he is largely engaged in the University examinations. His duties as lecturer and examiner *must* be attended to in the *first* place, whatever the Observatory business may be. The University cannot afford to give such a salary as will secure persons competent to carry on the computations without constant superintendence; and when an assistant has obtained the necessary acquirements, he is naturally and properly on the look out for a better place. It is not generally known how much mere heavy labour has been actually performed by the late and present professor.

1848MNRAS...8..221.

clock does not exceed 1^s per hour. The declination and hour-circles are sufficiently good to give excellent results when objects are compared beyond the limits of the micrometer, an immense advantage when time is wanting and the weather is uncertain, and in all cases a great comfort, as it secures perfect identification.

We do not know certainly what line of astronomical research Mr. Hartnup will take up. He will do most wisely to follow his own inclination; but such an instrument would be very well employed in observing the planets for instance, especially the smaller planets, when they cannot be observed on the meridian at Greenwich. This would not only complete the series of the Greenwich Observations, but would greatly relieve the Cambridge Observatory, on which this branch of observing has of late pressed heavily.*

Extract of a letter from E. J. Cooper, Esq. Markree Castle.

"So long ago as the discovery of *Astræa*, I had it in contemplation to endeavour to perfect the maps in progress at Berlin, and by means of which that discovery was made, by including, as far as possible, all stars to 12th or 13th mag.; many circumstances combined to oblige me to defer this project. Upon receipt of the Berlin maps, I found that they ranged only 15° on each side of the equator, thus omitting a large portion of the ecliptic. My object being first to complete maps within a few degrees of the ecliptic, I was, of course, forced to adopt other maps in connexion with them. Our mapping proceeded as I had directed during most of the time of my recent absence from home; and when 18^h of right ascension came to the meridian at a convenient hour, Mr. Graham suggested the employment of his square-bar micrometer to enable us to lay down a number of standard points from which subsequently to fill in. I acceded at once to his proposition, and the result has been, for the past month of August, a collection of unpublished stars in the neighbourhood of the ecliptic to the number of 957, observed by me and Mr. Graham. For the reduction to 1850, we united with us my second assistant, Mr. C. Robertson; and by our collective work we have the catalogue ready for publication at this moment, without having lost any opportunity of increasing our stock. Indeed I believe that there are about 600 obtained during the last month. We consider that the probable mean error does not exceed 0^s·5 on these observations; so they approximate quite sufficiently for any maps, or as data for discovery of planetary bodies."

Mr. Maclear has sent from the Cape of Good Hope the mean places of the stars which he compared with Mauvais' comet. See *Mem. Ast. Soc.* vol. xv. p. 242.

---

* It is desirable that a semi-public observatory like Liverpool should take a determinate line. We have every reason to admire the zeal and steadiness of our amateur observers, many of whom might be cited as models in these respects; but they ought not to be tied down to a strictness and continuity of research which must often be inconvenient and sometimes impossible.

1848MNRAS...8..222.

Mr. Maclear has also forwarded mean places of the stars which Professor Mädler wished to have observed on account of suspected proper motion; along with Observations of *Uranus* and *Neptune* for 1847. These will be noticed in the next number.

Extract of a Letter from the Honourable Edmund Everett, President of the University of Cambridge, U.S.

"Our observatory has been spoken of, I am told, in the Annual Report of the Astronomical Society, as an establishment founded and supported by the state of Massachusetts. This is a mistake. The edifice was built by the university, and the great refractor bought by the proceeds of a subscription on the part of the merchants and friends of science in Boston and the vicinity. A few weeks since, a young gentleman of fortune died, leaving us a bequest of one hundred thousand dollars for the observatory."

A 12-inch altitude and azimuth instrument, an 8-inch sextant, and a theodolite, all by Troughton, the property of the late Admiral Shirreff, are now on sale, and may be seen at the Society's Apartments.

	£	*s.*	*d.*
Altitude and Azimuth Instrument....	25	0	0
Sextant	8	8	0
Theodolite	8	8	0

ERRATA.

In the *Monthly Notice*, No. 16 for June 1847, p. 284, *instead* of N.P.D. 102° 24′ 5″·7, which is the *apparent* N.P.D. of H.C. 43446, *read* N.P.D. 102° 24′ 27″·1. This is a different star from that in Bessel's Zones used on May 26.

See pp. 198, 200, for notice of errors respecting *Flora.*

See p. 222, for error respecting Observatory, Cambridge, U.S.

London:—Printed by George Barclay, Castle Street, Leicester Square.